CHAPTER 1

INTRODUCTION

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1 INTRODUCTION

Users are expected to go to Mapping Tables in Annex 2, before reading this chapter. This is required to correctly understand both the refinements made and how the elements in this chapter relate to the corresponding chapter in the 2006 IPCC Guidelines.

1.1 INTRODUCTION

No refinement

1.2 SOURCE CATEGORIES

The energy sector mainly comprises:

- exploration and exploitation of primary energy sources,
- conversion of primary energy sources into more useable energy forms in refineries and power plants
- transmission and distribution of fuels
- use of fuels in stationary and mobile applications.

Emissions arise from these activities by combustion and as fugitive emissions, or escape without combustion.

For inventory purposes, *fuel combustion* may be defined as *the intentional oxidation of materials within an apparatus that is designed to provide heat or mechanical work to a process, or for use away from the apparatus.* This definition aims to separate the combustion of fuels for distinct and productive energy use from the heat released from the use of hydrocarbons in chemical reactions in industrial processes, or from the use of hydrocarbons as industrial products. It is *good practice* to apply this definition as fully as possible but there are cases where demarcation with the industrial processes and product use (IPPU) sector is needed. The following principle has been adopted for this:

Combustion emissions from fuels obtained directly or indirectly from the feedstock for an IPPU process will normally be allocated to the part of the source category in which the process occurs. These source categories are normally 2B and 2C. However, if the derived fuels are transferred for combustion in another source category, the emissions should be reported in the appropriate part of Energy Sector source categories (normally 1A1 or 1A2). Please refer to Box 1.1 and section 1.3.2 in chapter 1 of the IPPU Volume for examples and further details.

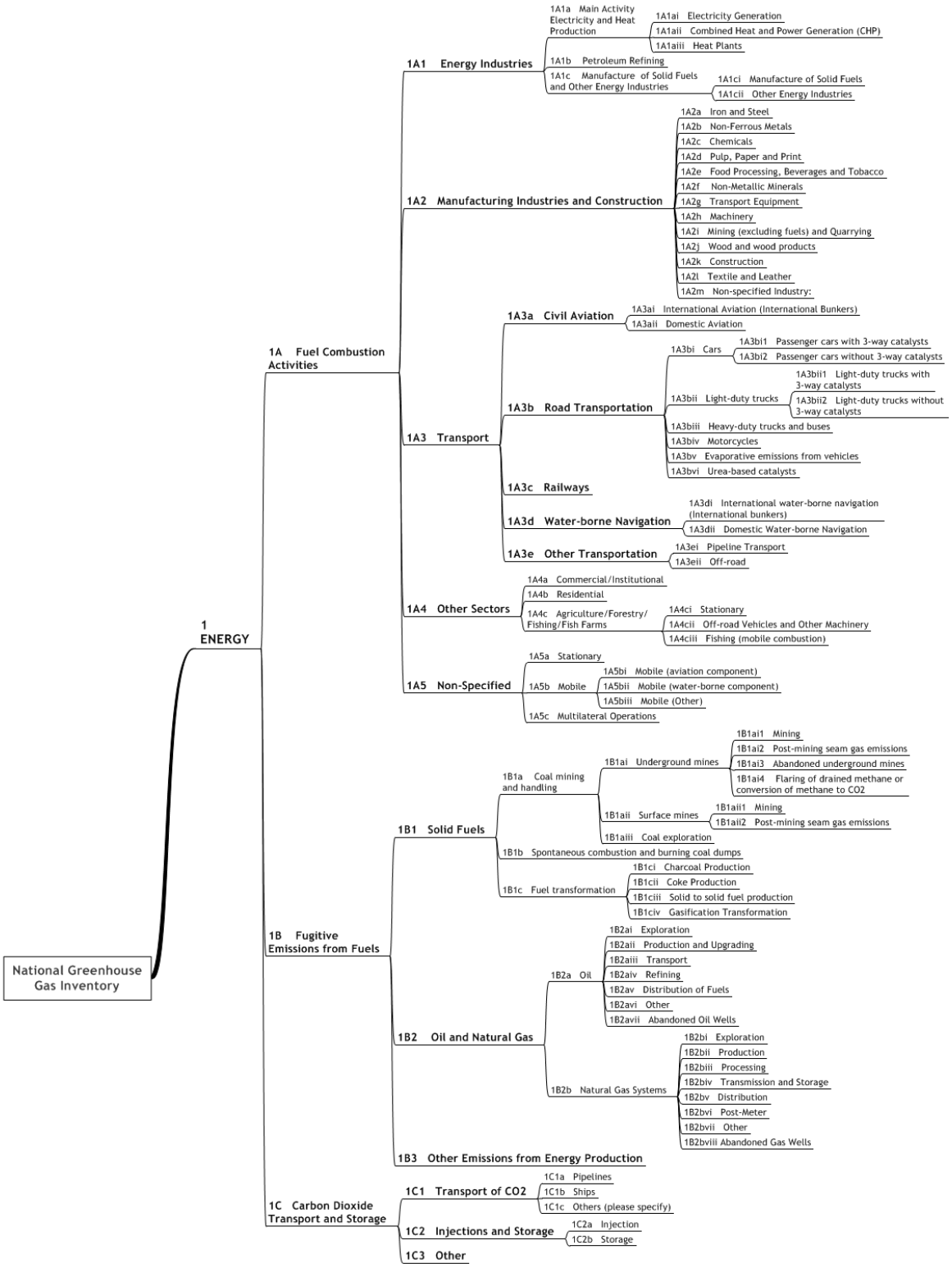
When the total emissions from the gases are calculated, the quantity transferred to the energy sector should be noted as an information item under IPPU source category and reported in the relevant energy sector source category to avoid double counting.

Typically, only a few percent of the emissions in the energy sector arise as *fugitive emissions* from extraction, transformation and transportation of primary energy carriers. Examples are leakage of natural gas and the emissions of methane during coal mining and flaring during oil/gas extraction and refining[1]. In some cases where countries produce or transport significant quantities of fossil fuels, fugitive emissions can make a much larger contribution to the national total. Combustion and fugitive emissions from production, processing and handling of oil and gas should be allocated according to the national territory of the facilities including offshore areas (see Chapter 8 - section 8.2.1 in Vol. 1). These offshore areas may be an economic zone agreed upon with other countries.

Figure 1.1 shows the structure of activities and *source categories* within the energy sector. This structure is based on the coding and naming as defined in *the 1996 IPCC Guidelines and the Common Reporting Format (CRF)* used by the UNFCCC. The technical chapters of this Volume follow this source category structure.

[1] Note that the combustion emissions due to transport of energy carriers by ship, rail and road are included in the mobile combustion processes.

Figure 1.1 (Updated) Activity and source structure in the Energy Sector



1.3 METHODOLOGICAL APPROACHES

No refinement

1.4 DATA COLLECTION ISSUES

No refinement

1.5 UNCERTAINTY IN INVENTORY ESTIMATES

No refinement

1.6 QA/QC AND COMPLETENESS

No refinement